

CODIB-D-82/3
11 May 1961

UNITED STATES INTELLIGENCE BOARD
COMMITTEE ON DOCUMENTATION

USIB Information Processing Survey

1. Attached is a draft of terms of reference for the USIB study of the USIB information processing problems. The preparation of plans for such a study was directed by the USIB (USIB-M-144, para. 10.c.).

2. This draft will be reviewed by the CODIB group assembled at the CIA relocation center on May 16 and 17, preparatory to submitting a CODIB approved paper to USIB at an early date.

3. The following background references are cited for information:

- DCID 1/4: Committee on Documentation.
- CODIB Second Annual Report to USIB, 30 June 1960, pp. 15-18.
- USIB-M-115, para. 5.
- CODIB Progress Report to USIB, 1 March 1961
(CODIB-D-73/2; USIB-D-39.5/5)
- USIB-M-144, para. 10.c.
- CODIB-D-69 (and attachments).
- CODIB-D-82.
- CODIB-D-82/1 (Limited Distribution).
- CODIB-D-82/2 (Limited Distribution).

Attachment

Chairman

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Final Terms of Reference for
Study of
USIB Information Processing Problems

Purpose of Study

1. The basic purpose of the study is to help the USIB and CODIB to prepare "Guidelines for the development of information processing facilities in the Community" (USIB-M-115). "The study should seek to establish and define long-range goals, with particular emphasis on considerations attending the use of automatic data processing and the development of compatible systems" (USIB-M-144).

2. We should also keep in mind some of the observations of the Joint Study Group on problems in this area. The capabilities of equipments being developed are often ahead of the techniques and procedures for utilizing these equipments effectively. These equipments for example, are viewed in some areas primarily as reservoirs of material rather than filters, in spite of the fantastic increases in the volumes of material to be processed or handled. The Joint Study Group urges that the intelligence community promote the use of such machines as selective filters rather than mass reservoirs." The issue of systems

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6. This document as amended, or its equivalent, once approved, will see the termination of Phase I, and lead to the next step which will be the procurement and organization of the personnel to carry out Phases III through VI.

7. The control of the study should remain unmistakably and firmly in the hands of CODIB; dependence on outside help should be limited to expertise needed to make-up deficiencies arising as a result of inability of the intelligence community to staff the effort from its own people. Outside representation may also be found desirable to achieve other objectives, such as the encouragement of research effort of value to intelligence at no cost to the Government.

8. The specific tasks to be accomplished during the fact finding phase should in all probability include:

- the identification of activities which for purposes of this study are to be included in a more precise definition of the intelligence community than now exists.
- the requirements of these activities for classified information and for open literature to discharge their intelligence missions.
- the problems of obtaining access to (a) knowledge of the existence of required information; and (b) the information itself.
- the problems of preparing the input in view of the multiplicity of sources, formats, security controls, languages; of the

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- perishability of the information; and of the competition for information.
- the problems of original dissemination by receiving processing centers.
 - the problem of servicing requests for information from storage by retrieval.
 - current programs affecting any of the above.
 - long-range programs affecting any of the above.
9. Major components which we can predict will be directly involved are:
- a. State, including the Department and selected Foreign Service Posts.
 - b. CIA, including OCR and RI/DDP, with particular attention to services of common concern such as BR, GR, IR, SR, and the CIA Library.
 - c. Defense, including the JCS Command and Control study group and affected commands.
 - d. Army, including ACSI, the Tech Services, and the Field Data System.
 - e. Navy, including ONI and the Op Con System.
 - f. Air Force, including AFCIN, AFIC, ATIC, ACIC and SAC, and perhaps ASTIA.

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- k. NSA.
- h. NPIC.
- i. NIC.
- j. Non-USIB agencies, such as USIA.

10. Numerous studies have been made over the past few years covering various aspects of the activities and problems of concern to us in the above components. These studies should be exploited as much as warranted in order to avoid unnecessary efforts during the fact-finding phase. Projects such as WALNUT, ACSIMATIC, and the AIDS project at SAC are cases in point. In addition, there exist many general studies which provide contributions on the more theoretical aspects of our problems (e.g., NBS reports series prepared by the Research Information Center and Advisory Service on Information Processing).

11. The preparation of recommendations for action in specific areas need not await the completion of the entire study.

The Survey Staff and Its Mission

12. The Staff assembled for conducting the survey shall be a full-time working group with no other commitments. Members are to come principally from various Government intelligence organizations.

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13. Expert consultants with skills needed to complement those of the members of the group are to be drawn from organizations outside of the intelligence community (some full-time, some part-time).
14. Staff personnel are to be qualified to develop long-range plans for information processing and to establish guidelines for the introduction of methods and equipments to achieve the long-range goals.
15. This analysis team should have within itself the capability to apply methods and techniques of analysis to a wide variety of system problems. While knowledge of state-of-the-art in equipments and utilization techniques must also be contained within the team, the primary focus should be on the operations--the problem of the users. The efforts of the group should be directed much more toward an operations analysis than an engineering analysis. In this regard, one of the pressing tasks the team would face is the identification of the information links among the various organizations and the problems of interface between each organization's operation and both the parent body and the other components of the community. Specification of the mode of information transmission is an engineering problem; determination of what information needs to be transmitted and in what format is an operations problem.
16. It is apparent that the orientation of the analysis team is critical to its success. It must be USIB oriented, with no mission of its own but to provide

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a service to the intelligence community as a whole. This attitude must be reflected in any system recommendations or specifications resulting from the group's efforts.

17. As a byproduct of the planning function and its orientation toward service to the community, the analysis team could assist individual organizations in conducting feasibility studies, performing operational experiments, and evaluating current and proposed programs. Objective technical support could also be provided to organizations working with hardware contractors in the implementation of specific programs.

Sources of Manpower for Staffing

18. The complement of the Staff is not to exceed ___ professional personnel, including full-time consultants. Secretarial assistance will be provided as needed.

19. Each of the following organizations shall provide one competent individual: State, Defense, Army, Navy, Air Force, NSA, and NPIC. CIA shall provide up to ___, plus secretarial support.

20. In addition the staff may be augmented, as needed, by specialized outside assistance to be selected from the following organizations: SRI, RAND, SDC, MITRE, and PRC. Organizations approached will be invited to make competent individuals available to an amount not to exceed \$30,000/annum, including expenses

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incidental to any necessary move.

Staff Control

21. The staff shall report to a staff director, who shall report to the Chairman of CODIB.

Advisory Panel of Experts

22. Individuals in the Government having special competence in a field of interest to CODIB will be identified and, with their consent and that of their superiors, will constitute a panel of consultants upon whom CODIB may draw for advice and assistance.

Security Clearances

23. All members of the staff shall be cleared for special intelligence; a selected number shall be cleared into the NPIC; part-time experts will be cleared on a need-to-know basis.

Prospective Results

24. If properly organized and carried out, helpful results from this study may be expected in four general areas:

- (1) Clarification of organizational goals;
- (2) Clarification of functional goals;

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(3) Inauguration of "system of systems" concept; and

(4) Creation of an integrated research support program.

25. Organizational goals. Here we should get some clarification of how best to allocate responsibilities for performing processing services of common concern in support of departmental subsystems charged with carrying out specific missions. For example, biographic information is a general category of intelligence and its processing may be done centrally in support of a number of other components such as NIC (early warning) or SAC (targeting and air defense analysis).

26. Functional goals. We should get help in firming up concepts, now rather loose, about the need for common coding, common formatting, compatible computer programing (an extension of the COBOL approach), compatible remote systems input equipment, and compatible processing equipment. The entire business of planning data base exchange programs, which is a corollary of the example mentioned under organizational goals above, should be clarified. These goals could even include targets aimed at integrating dissemination and requirements control practices.

27. "System of systems" approach. The existence of a multiplicity of separate but interdependent systems requires a broader look than is usually required when a single system is under study. There are certain basic processes common to all our systems (see Attachment A), and there are also

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certain operations common to all mechanized information storage and retrieval systems (see Attachment B). Moreover these processes and operations are performed on a data base much of which is common to the major intelligence components, and becoming increasingly so. This being the case, and assuming no drastic organizational changes, a "system of systems" approach would not only seem to be feasible but be our only salvation.

28. Research program in support of USIB. Problems identified which are not soluable without a concerted effort should make up a USIB research program. If they require basic research or work of an experimental nature which can be conducted outside the community, arrangements should be made to have this done. An example of a feasible approach is to enter into a cooperative program with the National Bureau of Standards, whose present program is already oriented in our direction with encouraging results (see NBS report series prepared for NSF).

Key Problems

29. In a further effort to make as clear as possible what we want from this study, we have listed below a number of questions which we consider it important to seek answers for.

- What are the areas of common community interest in which it is imperative to have effective direction or decision to govern

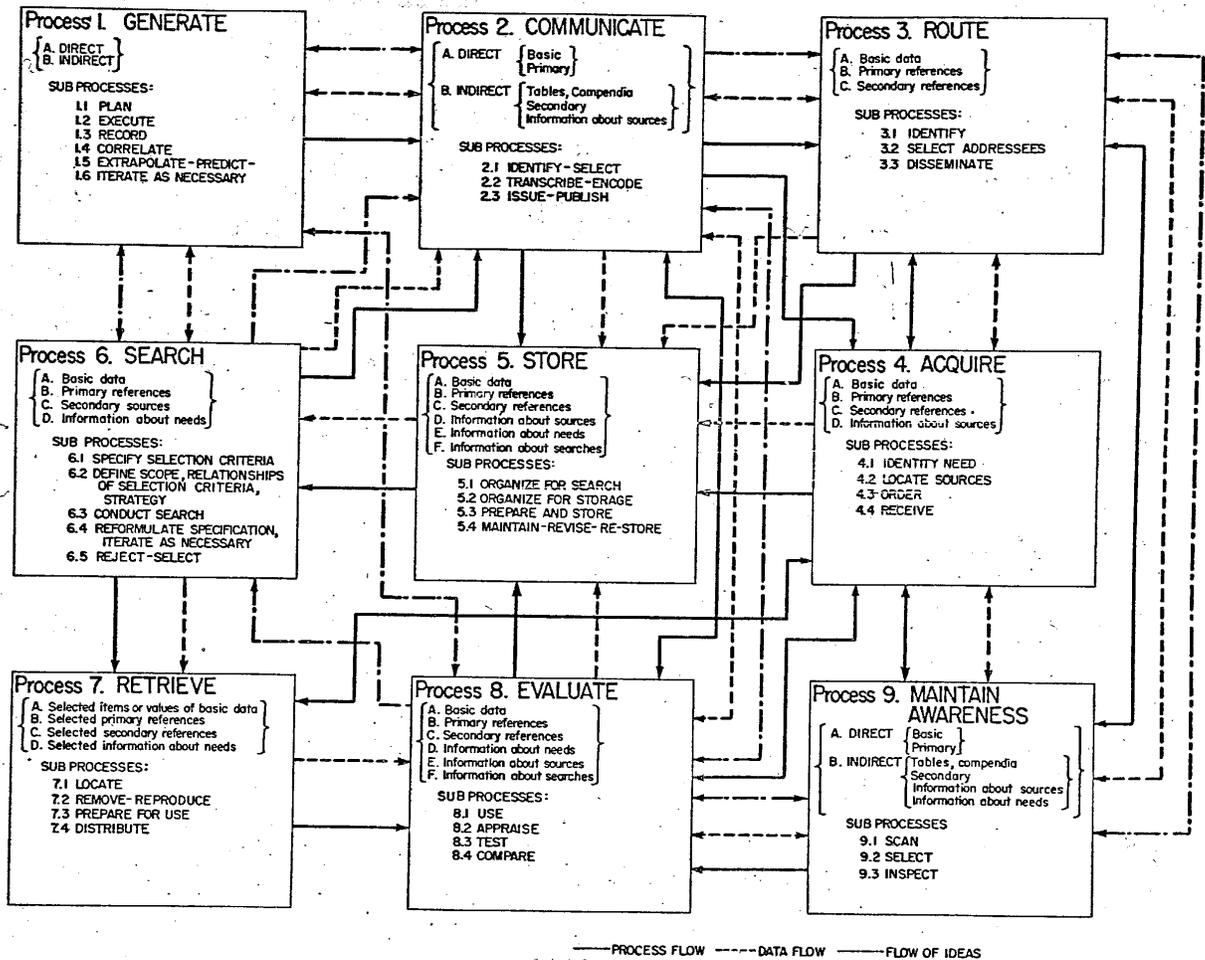
- actions by individual departments or agencies on information processing and compatibility?
- What does the continued development of EDP capabilities portend in the way of changes in the relationship and division of responsibilities between collection agencies (such as NSA) and user agencies, as well as, between the user agencies themselves?
 - To what extent is EDP required in a document reference system?
 - What electronic information processing should be done centrally as a service of common concern to the community? And what data manipulation should be done by individual components of the community on a decentralized basis?
 - What EDP application techniques for intelligence storage and retrieval are of sufficient importance to the community as a whole to warrant development and testing under community sponsorship?
 - What techniques can be developed to give EDP systems a capability for performing a selective filtering function (as against serving as a mass reservoir)?

Attachments - 2



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BASIC PROCESSES IN UTILIZATION OF INFORMATION



Attachment A

